

CLAIMS

1. A motor/generator system in which a motor/generator (MG) is connected to an output shaft (32) of a displacement type expander (E) that
5 converts adiabatic expansion of high temperature, high pressure steam into mechanical work,

characterized in that an expander casing (11) housing the expander (E), which is lubricated with oil, and a motor/generator casing (111) housing the motor/generator (MG) are joined so as to be hermetically sealed to the outside
10 air, and an internal space of the expander casing (11), where steam that has leaked from an expansion chamber (43) is present, is made to communicate with an internal space of the motor/generator casing (111) via a through hole (15a).

2. The motor/generator system according to Claim 1, wherein the through
15 hole (15a) provides communication between upper parts of the internal spaces of the expander casing (11) and the motor/generator casing (111).

3. The motor/generator system according to Claim 1, wherein a liquid return passage (132) is provided in lower parts of the expander casing (11) and the motor/generator casing (111), the liquid return passage (132) returning
20 water and oil that have accumulated within the motor/generator casing (111) to the expander casing (11).

4. The motor/generator system according to Claim 1, wherein the motor/generator casing (111) is detachably joined to the expander casing (11) so as to cover an output shaft support (15, 102, 104) provided on the
25 expander casing (11).

5. The motor/generator system according to Claim 1, wherein the motor/generator (MG) comprises a rotor (117) fixed to a shaft end of the

output shaft (32), and a bearing (105) for cantilever support of the shaft end of the output shaft (32) on the expander casing (11) is housed in a depression (120a) of the rotor (117) formed by supporting a permanent magnet (121) on an outer peripheral face of the rotor (117).